

In Irwin, the olive 18 of Figures 5 and 6 may have a plurality of arcuate projections, but it does not have material penetrating components, much less material penetrating components that are the ends of the arcuate projections penetrating the metal after cold forming. As pointed out at the bottom of column 4, the olive 18 includes "one or more peripheral gripping elements 56." As indicated in claim 12, subsection (d), the crimping is "to form fluid-tight and gripping contact" with the second pipe. The word "gripping" means to hold something tightly. It does not infer nor does it specifically deal with piercing.

As noted in the Office Action, Irwin also does not have a receiving groove. As noted in column 4, lines 21-26, the end 16 of the socket must be partially crimped or adhered to hold the annulus 18 prior to the crimping of the assembly. Thus, Irwin does not include cutting arcuate projection that penetrate the metal pipe after cold forming and does not have a holding element in a receiving groove, much less being resiliently secured in the groove.

Realizing the deficiency of Irwin, the rejection cites the Saka patent. Saka relates to "a pipe fitting for joining pipes made of elastic materials such as polyethylene or other plastic material." (Column 1, lines 5-7.) Although the intrusion ring 6 penetrates the outer surface of the pipe, this is soft, elastic material. The penetration is achieved and maintained by a press ring 3. There is no cold forming of the intrusion ring 6, only cold forming of the press ring 3. There is no indication that the intrusion ring is secured in the groove 7, much less resiliently.

It is not obvious to use a pipe coupling for plastic materials which are easily penetrated in a metal fitting of Irwin. Again, to grip something is not the same as penetrating. It is not obvious to incorporate the penetrating teachings of a plastic fitting into the metal teachings of Irwin. Even if the combination was obvious, the combined teachings do not meet all the limitations of claim 1 as discussed above.

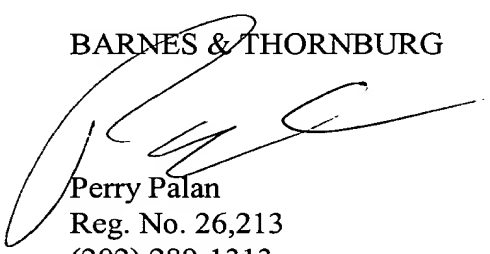
The original dependent claims and the new dependent claims are also allowable for their additional limitations. Thus, reconsideration of claim 1 and the dependent claims is hereby requested.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and

shortages in other fees be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg, Deposit Account No. 02-1010 (834/39803).

Respectfully submitted,

BARNES & THORNBURG



Perry Palan
Reg. No. 26,213
(202) 289-1313

Enclosure

CLAIM SUMMARY DOCUMENT

Sub E-1 > 1. (Previously Amended) In a non-detachable press fit arrangement between an end portion of a metal pipe and a socket of a fitting, with the socket defining an interior space and being formed with an annular anchoring groove facing the interior space for receiving a sealing ring, said press fit arrangement comprising at least one holding element resiliently secured to the socket in a receiving groove and cold formed together with the socket, said holding element has a material penetrating component formed by a plurality of cutting arcuate projections pointing in the direction of the anchoring groove and whose ends penetrate the metal pipe after cold forming, and wherein the annular anchoring groove is located in front of and separate from the receiving groove relative to the pipe end.

2. (Previously Amended) The press-fit arrangement of claim 1 wherein the socket is formed adjacent the anchoring groove for the sealing ring with an annular receiving groove facing the interior space for receiving the holding element, and wherein the said material penetrating component is a cutting edge arranged about the circumference of the holding element and extending to the end portion of the metal pipe.

3-5. (Withdrawn)

Sub E-2 > 6. (Original) The press-fit arrangement of claim 2 wherein the holding element is mounted by way of a positive fit into the receiving groove.

7-8. (Canceled)

9. (Original) The press-fit arrangement of claim 1 wherein the socket of the fitting has an outer peripheral surface formed with an engagement member selected from the group consisting of circumferential groove, lobes, ribs and circumferential fins for attachment of a press tool.

10. (Canceled)

11. (Original) The press-fit arrangement of claim 1 wherein the socket of the fitting is substantially round after being compressed, with sealing forces and holding forces

applied between the socket and the end portion of the metal pipe being substantially evenly distributed about the circumference of the metal pipe.

12. (Canceled)

13-17. (Withdrawn)

18. (Original) The press-fit arrangement of claim 1 wherein the holding element has a hardness exceeding a hardness of the metal pipe.

19. (Original) The press-fit arrangement of claim 1 wherein the holding element is made of special steel.

20. (Original) The press-fit arrangement of claim 1 wherein the sealing ring is a seal selected from the group consisting of lip seal, O ring or matched formed part.

21. (Original) The press-fit arrangement of claim 1 wherein the sealing ring has a relatively small cross section.

22. (Previously Added) The press fit arrangement of Claim 1, wherein the interior space of the socket includes a shoulder, which limits the amount of insertion of the pipe end, and the anchoring groove is between the shoulder and the receiving groove and spaced from the shoulder.

23. (New) The press fit arrangement of claim 1, wherein the receiving groove includes two opposed walls, one of the walls limiting axial movement of the holding element away from the anchoring groove before insertion of the pipe end into the socket.

24. (New) The press fit arrangement of claim 1, wherein the projections form one end of the holding element.

25. (New) The press fit arrangement of claim 1, wherein the socket is dimensioned to receive pipes having an insider diameter of greater than 54 millimeters.